**PELD I4-5 left male**

OPERATIVE PROCEDURE

Endoscopic Discectomy

PREOPERATIVE DIAGNOSIS: L4-5 Left -sided foraminal and extraforaminal disc herniation. With Left sided L4-5 radiculopathy. Patient has failed conservative management.

POSTOPERATIVE DIAGNOSIS: L4-5 Left -sided foraminal and extraforaminal disc herniation. With Left sided L4-5 radiculopathy. Patient has failed conservative management.

SURGEON: Dr. Amit Bhandarkar.

ASSISTANT: None

BLOOD LOSS: Scant

COMPLICATIONS: None.

IMPLANT: None.

PROCEDURES PERFORMED:

1. Transforaminal endoscopic lumbar discectomyL4-5 from the Left side.

2. Use of endoscope for better visualization.

3. Use of C-arm for better positioning the tubular retractor.

4. Discography

5. Epidurography and interpretations

6. Annuloplasty and ablation of the sinovertebral nerve for back pain relief

PREOPERATIVE AREA: In the preoperative area, the nature of the procedure, the approach to the disc, possible outcomes, and recovery course was discussed in details with the patient. The patient was also told about the possible complications including infection, blood clot formation, permanent or temporary nerve root damage, spinal fluid leak, and other related complications. The patient completely understands the risks of the procedure and consented for it. The patient's back was then marked and the site was then marked. The patient was then taken to operation room, where he was identified by the head nurse and also by the anesthetist. Patient was then positioned prone on the flattop Jackson table with the help of pillows.

Conscious sedation was then administered. C-arm was then used to find the entry point and trajectory for the insertion of endoscope. We initially marked the midline on the patient's lumbar spine at L4-5 area after squaring the disc space. We then also marked the disc space area. We then took lateral views to find out the facet joint line. We also marked the center of the disc on the lateral view and then we used the same distance to mark entry point onto the horizontal disc line.

This was about 11 cm away from the midline that was corroborating with our MRI calculations. Once the patient was marked the patient was nicely prepped and draped in normal sterile fashion. We then took entry point with the help of 18 gauze needle after adequately anesthetizing the skin with local anesthesia. The needle was then slowly guided under C-arm guidance to lie in the Kambin's triangle. Once in the epidural space we went ahead and did the epidurogram which showed nice outline of the exiting and the traversing nerve roots.

 Patient's feedback was sought and patient was repositioned twice so as to gain entry into the disc space. As the patient has a foraminal extraforaminal disc we decided to go to a herniated fragment. The window at the Kambin's triangle was incresed because the traversing nerve root was pushed back by the foraminal herniation. We are able to have a safe window access and we advanced the needle so that it came to lie into the mid pedicular line in the AP view and the posterior vertebral line into the lateral view. We obtained the epidurogram and ascertained where the nerve roots are. We then advanced the needle into the disc space. He did not use any anesthesia at that point of time because we wanted to preserve feedback. Once the needle tip was in the midline in the AP view and in the center in the lateral view we carried out discogram with a mix of a solution of methylene blue Isovue. There was a concordant pain on the discogram after we had injected around 2 cc of the mix and the dye was seen leaking onto the Left side through the extraforaminal herniation. The needle was then replaced with a guide wire. A dilator was then slowly threaded over the guide wire until it came in contact with annulus. Patient was started experiencing pain at the point of time. We then slowly removed the dilator more medially and with little circular motion patient's pain decreased. We then instilled 1 cc of 1% lidocaine to minimize pain. At that point we then inserted the Dilator inside the disc space. It was appropriately positioned in both AP and lateral view. The cannula was then slowly inserted over the dilator so as the bevel was facing down so as to protect the exiting nerve root and then once inside it was rotated so as to face up. Once in that location the dilator was removed and irrigation of the cannula was performed.

In the meantime scope was made ready and was available. We inserted the scope into the cannula and we were able to see the inside of the disc. We then used the radiofrequency ablation bipolar probe from elliquence to slowly clean the fragmented disc. The Clear view was available after hemostasis we then started removing the disc and debulking the disc especially the nucleus pulposus. When enough nucleus pulposus which was stained blue in color was removed we then withdrew the cannula into foraminal space. Through the cannula was then moved towards the exiting nerve root. Nice MacNab's hidden zone was visualized. The use blunt hook and graspers to nicely clean the disc material which was pushing the nerve root up. After we had removed enough volume so as to see nice pulsations and sagging of the traversing nerve root. The exiting nerve root was also made free of the disc fragment which was just underneath the exiting nerve root. The fragment of disc was removed in bits and pieces. Hemostasis was then achieved. Radiofrequency ablator was then used for thermal modulation directly under vision. We also went ahead and ablated the sinuvertebral nerve. After we're convinced that we had enough fragment out we then slowly withdrew cannula and the scope so as to visualize the foramen. It was free of any residual disc fragments. Patient was also feeling that his pain has decreased substantially by that time. Patient was moving his legs and knees throughout the procedure without any evidence of any new deficit. After inspection of the foramen the scope portal was irrigated further. Following further irrigation the 40 mg of 1 cc of Depo-Medrol was put in to avoid any DRG related dysesthesias. Patient tolerated the procedure very well. Cannula was then pulled out and the skin was closed with one 3-0 nylon stitch.

 After the procedure, patient was transferred to PACU. In PACU, his pain was controlled with Morphine. He had a tolerable amount of pain and he was moving all extremities and had obtained pain relief. He tolerated the procedure very well.